TEXAS STATE
Soil & Water
CONSERVATION BOARD

Texas State Soil and Water Conservation Board
Clean Water Act §319(h) Nonpoint Source Grant Program
FY 2018 Workplan 18-07

SUMMARY PAGE						
Title of Project	Coordinating Facilitation and Implementation of the Double Bayou Watershed Protection Plan and Monitoring for Implementation Effectiveness					
Project Goals	• Facilitate ongoing stakeholder involvement and participation in the Double Bayou Watershed Partnership. • Coordinate and conduct relevant outreach and education activities in and around the watershed • Evaluate progress of implementation projects toward achieving milestones established in the WPP • Generate data of known and acceptable quality for surface water quality monitoring of both West Fork and East Fork stations • Conduct water quality sampling and analysis of sampled data to monitor ongoing water quality status and changes • Communicate water quality conditions to stakeholders in order to support adaptive management and expand public knowledge and participation in the Double Bayou implementation project.					
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Surface Water Quality Monitoring; (4) Public Participation and Stakeholder Coordination; (5) Data Analysis and Reporting					
Measures of Success	• Provide technical assistance to Double Bayou WPP Stakeholders • Evaluate progress toward achieving milestones • Provide sufficient data to characterize water quality conditions in Double Bayou • Increased knowledge of current/changing water quality conditions • Maintain project webpage to communicate water quality data, provide information to stakeholders, and provide access to education and outreach resources.					
Project Type	Implementation (X); Education (X); Planning (X); Assessment (X); Groundwater ( )					
Status of Waterbody on *2014 Texas Integrated Report*	Segment ID	Parameter of Impairment or Concern			Category	
	2422B_01	bacteria			5c	
	2422B_01	dissolved oxygen			5b	
	2422D_01	bacteria			5c	
Project Location (Statewide or Watershed and County)	Double Bayou Watershed in Chambers and Liberty Counties					
Key Project Activities	Hire Staff ( ); Surface Water Quality Monitoring (X); Technical Assistance (X); Education ( ); Implementation (X); BMP Effectiveness Monitoring (X); Demonstration ( ); Planning (X); Modeling ( ); Bacterial Source Tracking ( ); Other ( )					
2012 Texas NPS Management Program Reference	• Element One – LTGs 1, 2, 5, and 6 • Element One – STGs 1A,1B, 1C, 3A, 3B, and 3D • Elements Two and Five					
Project Costs	Federal	$363,196	Non-Federal	$223,320	Total	$586,516
Project Management	• Geotechnology Research Institute (GTRI)/Houston Advanced Research Center (HARC)					
Project Period	September 1, 2018 – August 31, 2021					

Part I – Applicant Information

Applicant							
Project Lead	Dr. Stephanie Glenn						
Title	Program Director, Hydrology and Watersheds						
Organization	Geotechnology Research Institute (GTRI)/Houston Advanced Research Center (HARC)						
E-mail Address	sglenn@harcresearch.org						
Street Address	8801 Gosling Drive						
City	The Woodlands	County	Montgomery	State	TX	Zip Code	77381
Telephone Number	281-364-6042			Fax Number	281-363-7935		

Project Partners	
Names	Roles & Responsibilities
Texas State Soil and Water Conservation Board (TSSWCB)	Provide state oversight and management of all project activities and ensure coordination of activities with related projects and TCEQ.
Geotechnology Research Institute (GTRI)/Houston Advanced Research Center (HARC)	Project administration and coordination; also responsible for developing water quality monitoring plan, approved QAPP and data analysis
Galveston Bay Estuary Program (GBEP)	Provide coordination of activities with related projects, provide state funding source for matching funds
United States Geological Survey (USGS)	Implement and manage water quality monitoring

Part II – Project Information

Project Type				
Surface Water	X	Groundwater		

Does the project implement recommendations made in (a) a completed WPP, (b) an adopted TMDL, (c) an approved I-Plan, (d) a Comprehensive Conservation and Management Plan developed under CWA §320, (e) the *Texas Coastal NPS Pollution Control Program*, or (f) the *Texas Groundwater Protection Strategy*?	Yes	X	No	
If yes, identify the document.	*a) The Galveston Bay Plan*, a Comprehensive Conservation and Management Plan *b) The Double Bayou Watershed Protection Plan*			
If yes, identify the agency/group that developed and/or approved the document.	a) Galveston Bay Council as facilitated by the TCEQ Galveston Bay Estuary Program b) EPA, TSSWCB, GTRI/HARC, Shead Conservation Solutions, USGS, Double Bayou Watershed Partnership	Year Developed	a) 1995 b) July 2016	

Watershed Information

Watershed or Aquifer Name(s)	Hydrologic Unit Code (12 Digit)	Segment ID	Category on 2014 IR	Size (Acres)
Double Bayou	12040202 (portion)	2422B, 2422D	5c (2422B) 3 (2422D)	61,445

Water Quality Impairment

Describe all known causes (i.e., pollutants of concern) and sources (e.g., agricultural, silvicultural) of water quality impairments or concerns from any of the following sources: *2014 Texas Integrated Report*, Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.

The 2014 Texas Integrated Report (Index of Water Quality Impairments) lists Segment 2422B_01, Double Bayou West Fork, as category 5c impaired for bacteria and category 5b impaired for depressed dissolved oxygen.

The 2014 Texas Integrated Report (Index of Water Quality Impairments) lists Segment 2422D_01, Double Bayou East Fork, as category 5c impaired for bacteria.

The 2014 Texas Integrated Report (Index of Water Quality Impairments) lists Segment 2422B_01, Double Bayou West Fork and Segment 2422D_01, Double Bayou East Fork, as category 5a impaired for dioxin in edible tissue and PCBs in edible tissue.

The 2014 Texas Integrated Report (Water Bodies with Concerns for Use Attainment and Screening Levels) lists Segment 2422B, Double Bayou West Fork as a concern for chlorophyll-a and depressed dissolved oxygen.

The draft 2011 Basin Summary Report by the H-GAC/Clean Rivers Program reported Segment 2422B, Double Bayou West Fork, is non-supporting of both the 24-hr average and the 24-hr minimum for dissolved oxygen

Project Narrative

Problem/Need Statement

The Double Bayou watershed is located on the Upper Texas Gulf Coast and is part of the Galveston Bay watershed. Situated in the eastern portion of the Lower Galveston Bay, it is comprised of two main subwatersheds; East Fork and West Fork, which are also the primary waterways in the watershed. The Double Bayou watershed drains directly into the Trinity Bay system and ultimately into Galveston Bay. The majority (93%) of the watershed lies within Chambers County, Texas. The remaining 7% of the watershed is located in Liberty County, Texas. The Double Bayou watershed drains 98 square miles of predominantly rural and agricultural landscape. However, several residential centers are located in the watershed.

Since 2009, GTRI has worked with the USGS and Shead Conservation Solutions with funding from GBEP/TCEQ, through the American Recovery and Reinvestment Act of 2009 (ARRA), to develop a watershed characterization for Double Bayou. The watershed characterization project includes establishing a baseline set of data, identifying data gaps, developing and initiating a Data Monitoring Plan and QAPP, and initial stakeholder work.

Since 2012, GTRI has worked with the USGS and Shead Conservation Solutions with funding from TSSWCB/EPA and GBEP/TCEQ to develop a Watershed Protection Plan (WPP) for Double Bayou. Through the WPP process, stakeholders in the Double Bayou watershed including community leaders, elected officials, landowners, nonprofit organizations, and representatives of relevant local, state, and federal agencies met through a serious of larger stakeholder meetings and smaller workgroup meetings to collaborate on the development of the WPP. Water quality was monitored on both the East and West Forks throughout the WPP process, and stakeholders were informed about results of the water quality monitoring and analysis. Working with the stakeholders, ideas for water quality management measures were discussed and analyzed by the three main workgroups (Ag/Wildlife/Feral Hog, Recreation/Hunting and WWTF/Septic) for inclusion in the Double Bayou WPP.

Implementation of the Double Bayou WPP supports the goals and actions outlined in the Water and Sediment Quality (WSQ) Action Plan and the NPS Action Plan of the Galveston Bay Comprehensive Conservation and Management Plan (CCMP). The Galveston Bay Comprehensive CCMP was developed by the Galveston Bay National Estuary Program (now the TCEQ Galveston Bay Estuary Program) and approved by the EPA National Estuary Program in 1995. Specifically, the Double Bayou WPP satisfies the following CCMP actions:

- Action WSQ-1: Reduce Contaminant Concentrations to Meet Standards and Criteria
- Action WSQ-6: Reduce Nutrient and BOD Loadings to Problem Areas
- Action NPS-1: Implement storm water programs for local municipalities
- Action NPS-2: Perform pilot projects to develop NPS Best Management Practices
- Action NPS-3: Identify and correct priority watershed pollutant problems
- Action NPS-10: Develop inventory of agricultural non-point sources
- Action NPS-11: Coordinate and implement existing agricultural NPS control programs

The Double Bayou Watershed Protection Plan (http://www.doublebayou.org/wpp-document/) was approved by stakeholders and accepted by the EPA in July 2016. This project is warranted to provide for water quality data collection efforts, maintaining stakeholder efforts and beginning implementation of the WPP. Maintaining an effective monitoring program will provide critical water quality data that will be used to judge the effectiveness of WPP implementation efforts and serve as a tool to quantitatively measure water quality restoration. This effort will continue maintenance of the project website. Continuing stakeholder facilitation is critical to effectively bridging the gap between projects that developed the Double Bayou WPP and beginning WPP implementation efforts. In December 2016, the Double Bayou Watershed Protection Plan project received the Our Great Region Diligence Award from the Houston Galveston Area Council's (H-GAC) Our Great Region Awards, which recognize outstanding projects in the region that advance the goals and strategies of the Houston-Galveston region.

This project will also leverage other activities in the watershed. Through TSSWCB project #16-04 *"Implementing Agricultural Nonpoint Source Components of the Cedar Bayou and Double Bayou Watershed Protection Plans"* implementation of WQMPs identified in the Double Bayou WPP is underway. Water quality monitoring will be critical in helping determine the effectiveness of these management measures. A 2017 study funded by the Galveston Bay Estuary Program will begin a Bacteria Source Tracking (BST) throughout Galveston Bay; five sites were selected for analysis and Double Bayou is one of these site. Results from both of these endeavors would be used in the project to help guide the implementation of the voluntary management measures described in the stakeholder-approved and EPA-accepted Double Bayou WPP.

Project Narrative

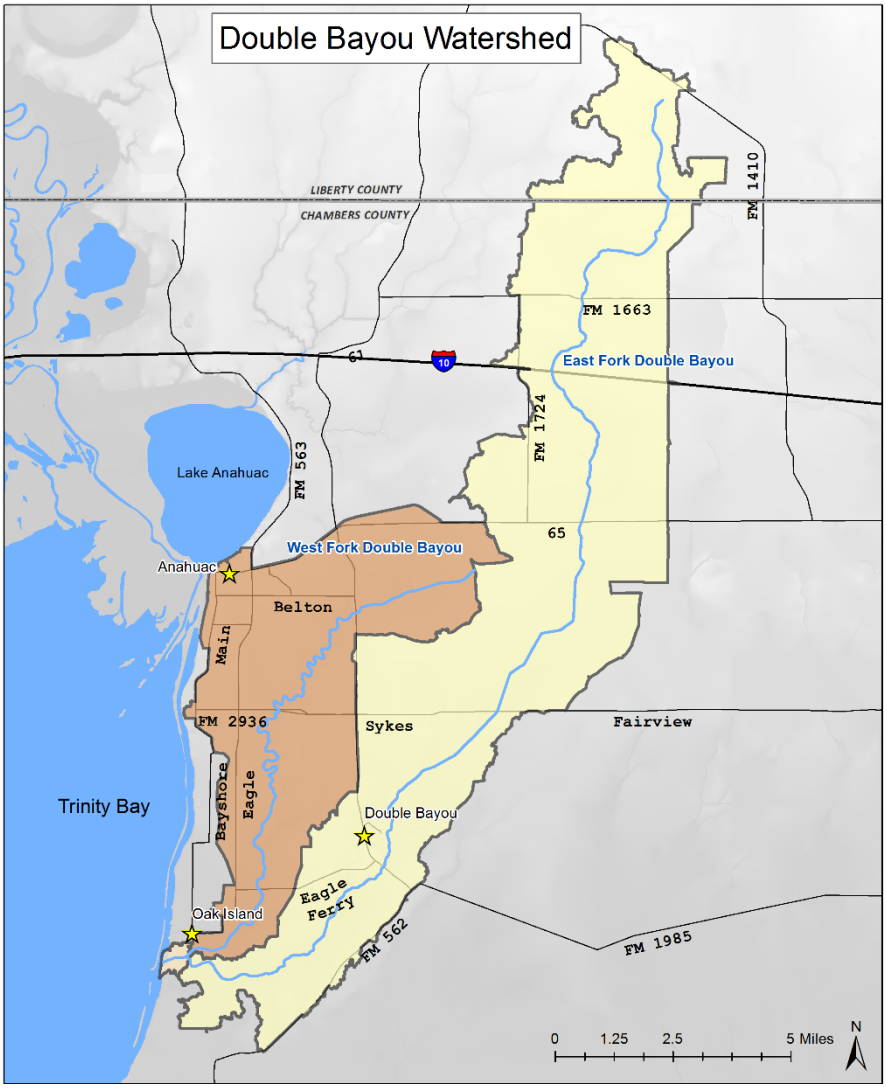
General Project Description (Include Project Location Map)

The goal of this project is to begin implementation of the Double Bayou WPP. The implementation process will involve implementation of targeted water quality education and outreach management measures outlined in the Double Bayou WPP, implementation of targeted water quality monitoring, further data analysis, and communicating the results to the stakeholders.

Through this project, the Double Bayou Watershed Partnership will be crucial in implementing the WPP. The Partnership will serve as the participatory mechanism for interested stakeholders during this process.

Using water quality monitoring results, a targeted water quality monitoring plan will be developed. The targeted water quality monitoring plan will provide sufficient data for analysis. The targeted water quality monitoring plan will further define water quality problems noted in the watershed protection plan. .

The USGS will conduct water quality data monitoring. USGS will conduct routine ambient monitoring at 4 mainstem sites once every other month, collecting field, conventional, flow, and bacteria parameter groups. USGS will include routine ambient monitoring at 1 WWTF site once per quarter, for an additional 8 samples. USGS will conduct base-flow monitoring at 4 mainstem sites plus the WWTF site, during 2 storm events during the sampling period, collecting field, conventional, flow, and bacteria parameter groups. The USGS will also provide technical support including input for the QAPP and sampling plans.



Using data collected from the targeted water quality monitoring plan, GTRI will develop assessment methodologies capable of identifying spatial and temporal changes in water quality. GTRI will conduct analysis of patterns in water quality to determine if beginning implementation strategies are having an impact. Data results and analyses will be developed into outreach materials and presented to the stakeholders for discussion.

Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	$39,213	Non-Federal	$40,209	Total	$79,422
Objective	To effectively administer, coordinate and monitor all work performed under this project including technical and financial supervision and preparation of status reports.					
Subtask 1.1	GTRI will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 1st of January, April, July and October. QPRs shall be distributed to all Project Partners.					
	Start Date	Month 1	Completion Date	Month 36		
Subtask 1.2	GTRI will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.					
	Start Date	Month 1	Completion Date	Month 36		
Subtask 1.3	GTRI will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. GTRI will develop lists of action items needed following each project coordination meeting and distribute to project personnel.					
	Start Date	Month 1	Completion Date	Month 36		
Deliverables	• QPRs in electronic format • Reimbursement Forms and necessary documentation in hard copy format					

Task 2	Quality Assurance					
Costs	Federal	$10,661	Non-Federal	$4,186	Total	$14,847
Objective	To develop data quality objectives (DQOs) and quality assurance/control (QA/QC) activities to ensure data of known and acceptable quality are generated through this project.					
Subtask 2.1	GTRI will develop a QAPP for activities in Tasks 3 consistent with the most recent versions of *EPA Requirements for Quality Assurance Project Plans (QA/R-5)* and the *TSSWCB Environmental Data Quality Management Plan*. All monitoring procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the *TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)* and *Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416)*. [Consistency with Title 30, Chapter 25 of the Texas Administrative Code, *Environmental Testing Laboratory Accreditation and Certification*, which describes Texas' approach to implementing the National Environmental Laboratory Accreditation Conference (NELAC) standards, shall be required where applicable.]					
	Start Date	Month 1	Completion Date	Month 6		
Subtask 2.2	GTRI will implement the approved QAPP. GTRI will submit revisions and necessary amendments to the QAPP as needed.					
	Start Date	Month 6	Completion Date	Month 36		
Deliverables	• QAPP approved by TSSWCB and EPA in both electronic and hard copy formats • Approved revisions and amendments to QAPP, as needed • Data of known and acceptable quality as reported through Task 3					

Task 3	Surface Water Quality Monitoring					
Costs	Federal	$160,315	Non-Federal	$11,290	Total	$171,605
Objective	To provide sufficient data to characterize current water quality conditions in support of the WPP implementation.					
Subtask 3.1	USGS will conduct routine ambient monitoring at 4 mainstem sites once every other month, collecting field, conventional, flow, and bacteria parameter groups. USGS will include routine ambient monitoring at 1 WWTF site once per quarter, for an additional 8 samples. USGS will assist with development of the QAPP, as detailed in Task 2, which will precisely identify sites. The sampling period extends over 24 months. The number of samples planned for collection through this subtask is 48 (56 with WWTF samples) plus QA/QC samples (duplicates/replicates). Currently, routine ambient monitoring is conducted once per quarter year at one station by TCEQ (10657; field, conventional, and bacteria parameters only) and at two stations by the Trinity River Authority (18361, 10658; field and conventional parameters only) through the Clean Rivers Program. Sampling through this subtask will complement existing routine ambient monitoring regimes. Field parameters are pH, temperature, specific conductance, turbidity and dissolved oxygen. Conventional parameters are suspended solids, sulfate, chloride, nitrite+nitrate nitrogen, ammonia nitrogen, total kjeldahl nitrogen, orthophosphorus, and total phosphorus. Bacteria parameters are *E. coli* and Enterococcus (for both tidal and above tidal sites). Flow parameters are quantitative flow collected by gage, electric, mechanical or Doppler, including severity.					
	Start Date	Month 7	Completion Date	Month 36		
Subtask 3.2	USGS will conduct biased-flow monitoring at 4 mainstem sites plus the WWTF site, during 2 storm events during the sampling period, collecting field, conventional, flow, and bacteria parameter groups. Specific parameters are defined in subtask 4.1. The QAPP, as detailed in Task 2, will precisely identify sites. The sampling period extends over 24 months. The number of samples planned for collection through this subtask is 10.					
	Start Date	Month 7	Completion Date	Month 36		
Subtask 3.3	Additionally, one 24-hour multi-parameter sonde deployment measuring field parameters will be made during the TCEQ Index Period of each year (total of two deployments).; 24-hour dissolved oxygen concentrations will be sampled.					
	Start Date	Month 7	Completion Date	Month 36		
Subtask 3.4	USGS will transfer monitoring data from activities in Subtasks 3.1-3.3 through GTRI to TCEQ for inclusion in the TCEQ SWQMIS. Data will be transferred in the correct format using the TCEQ file structure, along with a completed Data Summary, as described in the most recent version of *TCEQ Surface Water Quality Monitoring Data Management Reference Guide*. Data Correction Request Forms will be submitted to TSSWCB whenever errors are discovered in data already reported. All monitoring data files, data summary reports, and data correction request forms will be provided to all Project Partners.					
	Start Date	Month 7	Completion Date	Month 36		
Deliverables	• Station Location Request Forms (as needed) in electronic format • Monitoring data files and Data Summary in electronic format monthly • Data Correction Request Forms (as needed) in electronic format					

<table>
<tr><td>Task 4</td><td colspan="6">Public Participation and Stakeholder Coordination</td></tr>
<tr><td>Costs</td><td>Federal</td><td>$74,679</td><td>Non-Federal</td><td>$77,336</td><td>Total</td><td>$152,015</td></tr>
<tr><td>Objective</td><td colspan="6">To coordinate and facilitate continued stakeholder involvement in a local watershed stakeholder group that will provide local input into the decision-making process for the implementation of the Double Bayou WPP.</td></tr>
<tr><td rowspan="2">Subtask 4.2</td><td colspan="6">GTRI will facilitate public participation and stakeholder involvement in the watershed planning process, specifically by facilitating meetings to provide updates on the status of water quality monitoring efforts and results, progress in identifying implementation funding, and movement towards water quality restoration and seek input and recommendations on needed activities. GTRI will coordinate initial meetings, secure meeting locations, prepare and disseminate meeting notices and agendas. Meeting announcements and summaries will be prepared and posted to the project website.</td></tr>
<tr><td>Start Date</td><td colspan="2">Month 1</td><td>Completion Date</td><td colspan="2">Month 36</td></tr>
<tr><td rowspan="2">Subtask 4.3</td><td colspan="6">GTRI will maintain a spreadsheet of watershed stakeholders and affected parties for use in engaging the public in the watershed planning process. The spreadsheet will be added based upon previous efforts of in TSSWCB project 11-08. The spreadsheet will represent a diverse cross section of Double Bayou landowners, citizens, local businesses, local and regional governmental entities and elected officials, state and federal agencies, and environmental and special interest groups.</td></tr>
<tr><td>Start Date</td><td colspan="2">Month 1</td><td>Completion Date</td><td colspan="2">Month 36</td></tr>
<tr><td rowspan="2">Subtask 4.5</td><td colspan="6">GTRI will begin coordination of education and outreach implementation management measures as identified in the Double Bayou WPP, including public workshops. GTRI will work with state and federal agencies, as appropriate, to bring technical and financial resources to the watershed. Potential programs to be delivered over the course of the project could include: Lone Star Healthy Streams workshop; Intro to Septic Systems for Homeowners; Aerobic system operation and maintenance workshops for homeowners; Riparian Management Workshops for landowners and land managers; Texas Well Owner Network trainings and well screening events; Feral Hog Management Workshop. Guidance from the stakeholders and availability of resources will determine selection.</td></tr>
<tr><td>Start Date</td><td colspan="2">Month 1</td><td>Completion Date</td><td colspan="2">Month 36</td></tr>
<tr><td rowspan="2">Subtask 4.6</td><td colspan="6">GTRI will develop, publish, and distribute 3 newsletters that are designed to keep landowners and entities informed of ongoing WPP implementation activities, including water quality data collection and progress toward achieving milestones in the WPP. The newsletter shall be distributed as most appropriate to individual landowners and entities in the watershed. Other materials will include production of informational/promotional factsheets, press releases, and materials on the project website.</td></tr>
<tr><td>Start Date</td><td colspan="2">Month 1</td><td>Completion Date</td><td colspan="2">Month 36</td></tr>
<tr><td>Deliverables</td><td colspan="6">• Notices, agendas, meeting materials, attendance lists, and summaries from Partnership meetings
• Stakeholder contact list, updated as needed
• Notices, attendance lists and summaries for workshops and programs conducted through Subtask 4.5
• 3 newsletters developed and distributed to stakeholders</td></tr>
</table>

Task 5	Data Analysis and Reporting					
Costs	Federal	$78,328	Non-Federal	$90,299	Total	$168,627
Objective	To analyze water quality data to monitor ongoing water quality status and changes and to communicate water quality conditions to stakeholders and the general public in order to support adaptive management and expand public knowledge and participation.					
Subtask 5.1	GTRI will analyze all historic and existing water quality data (including precipitation and geospatial data) for the watershed. Using water quality data collected through Task 3 and assimilated data collected by other entities during the same period, GTRI will conduct analysis of water quality in Double Bayou.					
	Start Date	Month 7	Completion Date	Month 32		
Subtask 5.2	GTRI will develop figures, charts and tables, as necessary, to present the data to the stakeholders at meetings or in documents in order to communicate ongoing water quality conditions.					
	Start Date	Month 7	Completion Date	Month 32		
Subtask 5.3	Using the results from Task 3 and Subtask 4.1, GTRI will develop a discussion for the Final Report (subtask 4.5) that further defines water quality problems and assesses critical and possible source areas.					
	Start Date	Month 1	Completion Date	Month 32		
Subtask 5.4	GTRI will evaluate and track progress toward achieving milestones established in the WPP.					
	Start Date	Month 7	Completion Date	Month 32		
Subtask 5.5	GTRI will develop a Final Report that summarizes activities completed and conclusions reached during the project, as well as discuss milestones achieved and ongoing activities (summary of Subtask 5.4) and that includes the technical chapter (Subtask 5.3) discussing results of ongoing water quality monitoring.					
	Start Date	Month 7	Completion Date	Month 32		
Deliverables	• Water quality data analysis • Water quality data prepared into figures, charts and tables for stakeholder communications • Final Report					

Project Goals (Expand from Summary Page)

- Facilitate the partnership and foster coordinated assistance activities between cities, counties, TSSWCB, local SWCDs, local municipalities, etc, for the Double Bayou Watershed Protection Plan (WPP) stakeholders
- Track and document implementation efforts to evaluate progress toward achieving milestones established in the WPP
- Generate data of known and acceptable quality for surface water quality monitoring of both West Fork and East Fork stations; conduct water quality sampling and analysis of sampled data to monitor ongoing water quality status and changes
- Communicate water quality conditions to stakeholders in order to support adaptive management and expand public knowledge and participation in the Double Bayou implementation project.

Measures of Success (Expand from Summary Page)

- Continued watershed partnership engagement as documented through the number of meetings held and updates provided to the partnership
- Tracked progress toward achieving milestones
- Collection and analysis of quality assured data for watershed assessment
  - Results will be presented to stakeholders and developed into stakeholder outreach
  - Increased knowledge of current/changing water quality conditions
- Increased knowledge and watershed stewardship of citizens, landowners and agricultural producers of management measures identified in WPP
  - Maintain project webpage to communicate water quality data, provide information to stakeholders, and provide access to education and outreach resources.

***2012 Texas NPS Management Program* Reference (Expand from Summary Page)**

Components, Goals, and Objectives

Element 1 - Explicit short- and long-term goals, objectives and strategies that protect surface water.

Long-Term Goal – To restore water quality from NPS pollution through assessment, implementation, and education.

- Objective A – Focus NPS abatement efforts, implementation strategies, and available resources in watersheds identified as impacted by NPS pollution.
- Objective B – Support the implementation of programs to prevent NPS pollution through assessment, implementation, and education.
- Objective E – Develop partnerships, relationships, memoranda of agreement, and other instruments to facilitate collective, cooperative approaches to manage NPS pollution.
- Objective F – Increase overall public awareness of NPS issues and prevention activities.

Short-Term Goal One **–** Data Collection and Assessment – Objective A – Identify waterbodies from the 303(d) List that need additional information to characterize non-attainment of designated uses and [water] quality standards.

Short-Term Goal One – Data Collection and Assessment – Objective B – Ensure that monitoring procedures meet quality assurance requirements and are in compliance with EPA-approved TSSWCB Quality Management Plans.

Short-Term Goal One – Data Collection and Assessment – Objective C – Conduct special studies to determine sources of NPS pollution and gain information to target BMP implementation.

Short-Term Goal Three – Education **–** Objective A **–** Enhance existing outreach programs at the state, regional, and local levels to maximize the effectiveness of NPS education.

Short-Term Goal Three – Education – Objective D – Conduct outreach through the Clean Rivers Program, SWCDs, and others to facilitate broader participation and partnerships [to] enable stakeholders and the public to participate in decision-making and provide a more complete understanding of water quality issues and how they relate to each citizen.

Element 2 – Working partnerships and linkages to appropriate state, regional, and local entities, private sector groups, and federal agencies.

Element 5 – The state program identifies watersheds impaired by NPS. Further, the state establishes a process to progressively address these identified waters by conducting more detailed watershed assessments and developing watershed implementation plans, and then by implementing the plans.

Estimated Load Reductions Expected (Only applicable to Implementation Project Type)
The goals of the Double Bayou WPP are to reduce nonpoint source loadings of bacteria (source of impairment listing) from identified sources within the watershed. Load reductions expected from this project will vary depending on the actual management measures implemented in the watershed and will be quantified in the project final report based on accepted calculation methods such as those described in the stakeholder-approved and EPA-accepted Double Bayou WPP. Water quality data collected through this and previous projects can be analyzed to determine if water quality has improved since WPP implementation began.

EPA State Categorical Program Grants – Workplan Essential Elements FY 2018-2022 EPA Strategic Plan Reference
Strategic Plan Goal – Goal 1 Core Mission
Strategic Plan Objective – Objective 1.2 Provide for Clean and Safe Water

Part III – Financial Information

Budget Summary				
Federal	$	363,196	% of total project	62%
Non-Federal	$	223,320	% of total project	38%
Total	$	586,516	Total	100%

Category	Federal	Non-Federal	Total
Personnel	$95,512	$45,191	$140,703
Fringe Benefits	$45,771	$21,634	$67,405
Travel	$1,214	$0	$1,214
Equipment	$0	$0	$0
Supplies	$0	$0	$0
Contractual	$156,565	$0	$156,565
Construction	$0	$0	$0
Other	$33,921	$15,817	$49,738
Total Direct Costs	$332,983	$82,642	$415,625
Indirect Costs (≤ 15%)	$30,213	$12,396	$42,609
Unrecovered IDC		$128,282	$128,282
Total Project Costs	$363,196	$223,320	$586,516

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	$ 95,512	• Program Manager/Sr. Research Scientist @ 15% avg yrs1-3 • Research Associate @ 20% avg yrs1-3 • GIS Developer and Spatial Analyst @3.9% avg yrs1-3
Fringe Benefits	$ 45,771	Fringe rate at 46% Yr 1, 47.84% Yr 2 and 49.75% Yr3
Travel	$ 1,214	10 trips from The Woodlands, TX to Anahuac, TX – 150 miles round-trip at the state rate, $90.63 a trip, and 3 trips from the Woodlands, TX to Columbus, TX (estimate of location for watershed coordinator, etc meetings) – 180 miles round-trip at the state rate, $102.60 a trip.
Equipment	$ 0	N/A
Supplies	$ 0	N/A
Contractual*	$ 156,565	• USGS Water Resources $156,565
Construction	$ 0	N/A
Other	$ 33,921	• GTRI's Allocated Direct Costs (ADC) cover rent, utilities, phone, office supplies, etc. (estimated at 35% of Personnel) • Website: Domain name registration $20/year • Website: Wordpress website hosting $143.88/year
Indirect	$ 30,213	15% of Modified Total Direct Federal (Total minus Contractual >$25,000 and minus Equipment)

Budget Justification (Non-Federal)		
Category	Total Amount	Justification
Personnel	$ 45,191	• Program Manager/Sr. Research Scientist @ 7% avg yrs1-3 • Research Associate @ 11.75% avg yrs1-3 • GIS Developer and Spatial Analyst @ 1% avg yrs1-3
Fringe Benefits	$ 21,634	Fringe rate at 46% Yr 1, 47.84% Yr 2 and 49.75% Yr3
Travel	$ 0	N/A
Equipment	$ 0	N/A
Supplies	$ 0	N/A
Contractual*	$ 0	N/A
Construction	$ 0	N/A
Other	$ 15,817	• GTRI's Allocated Direct Costs (ADC) cover rent, utilities, phone, office supplies, etc. (estimated at 35% of Personnel)
Indirect	$ 12,396	15% of Modified Total Direct Federal (Total minus Contractual >$25,000 and minus Equipment)
Unrecovered IDC	$ 128,282	45.16%* of Modified Total Direct Federal and Non-Federal (Total minus Contractual >$25,000 and minus Equipment) ($90,960 from Federal; $37,321 from Non-Federal) *GTRI's federally negotiated indirect rate is 60.16%; 45.16% is the unrecovered over 15%)

Contractual Budget Justification for USGS

Budget Justification (Federal)		
Category	Total Amount	Justification
Personnel	$ 45,731	USGS personnel salary for monitoring, sample collection, data management, and reporting
Fringe Benefits	$ 0	N/A
Travel	$ 2,671	Vehicle fuel, maintenance, and incidental costs
Equipment	$ 0	N/A
Supplies	$ 5,341	Misc. supplies for sampling and monitoring (probes, standards, sample bottles, etc.)
Contractual*	$ 0	N/A
Construction	$ 0	N/A
Other	$ 82,792	Lab costs for sample analysis at water quality labs, shipping
Indirect	$ 20,030	Non-standard USGS Indirect Rate 15%